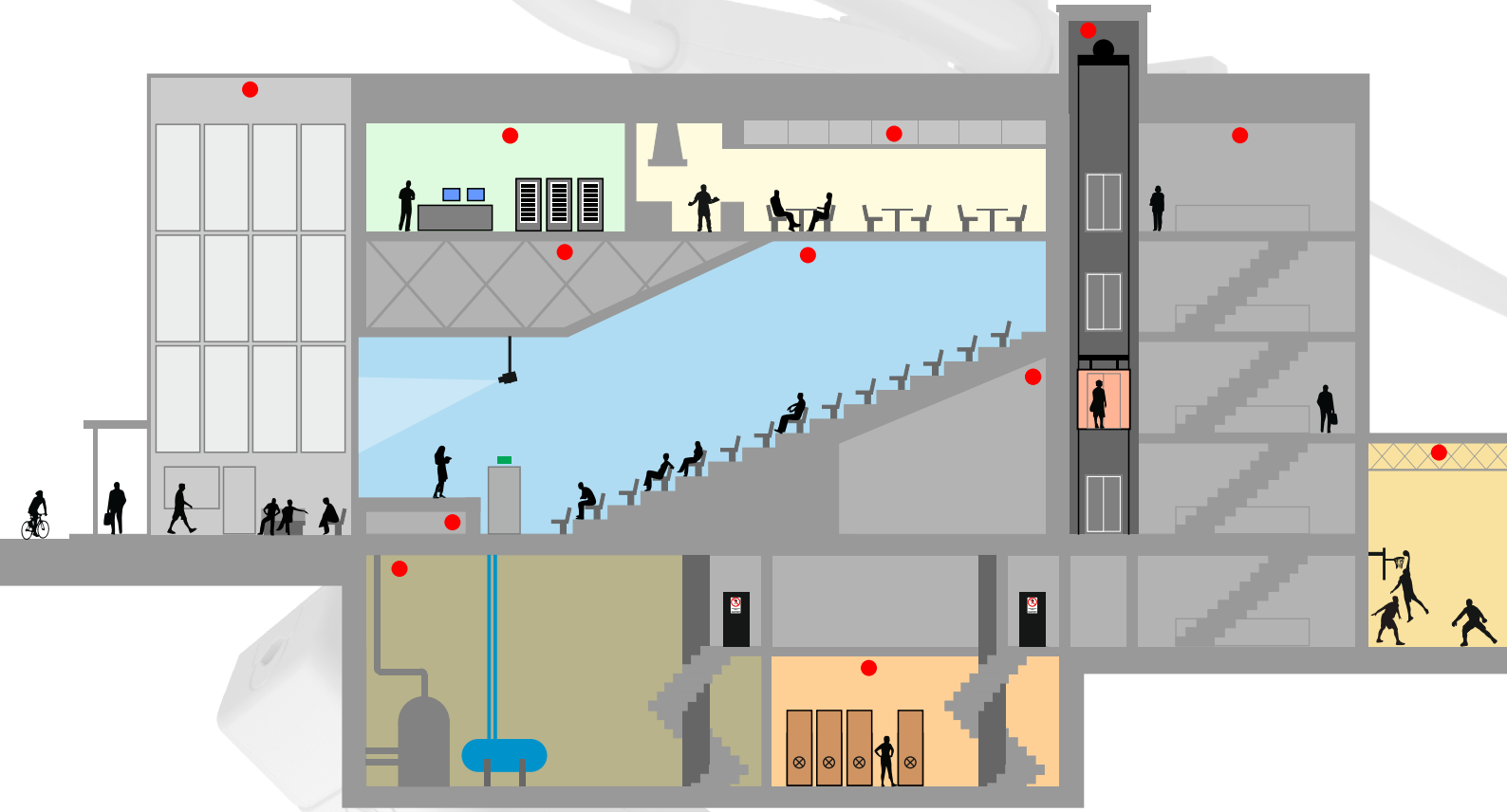
SMOKE TESTING FOR ASD SYSTEMS AND HARD-TO-ACCESS POINT DETECTORS IN ACADEMIA APPLICATIONS



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HARD-TO-ACCESS SMOKE DETECTORS IN A TYPICAL UNIVERSITY

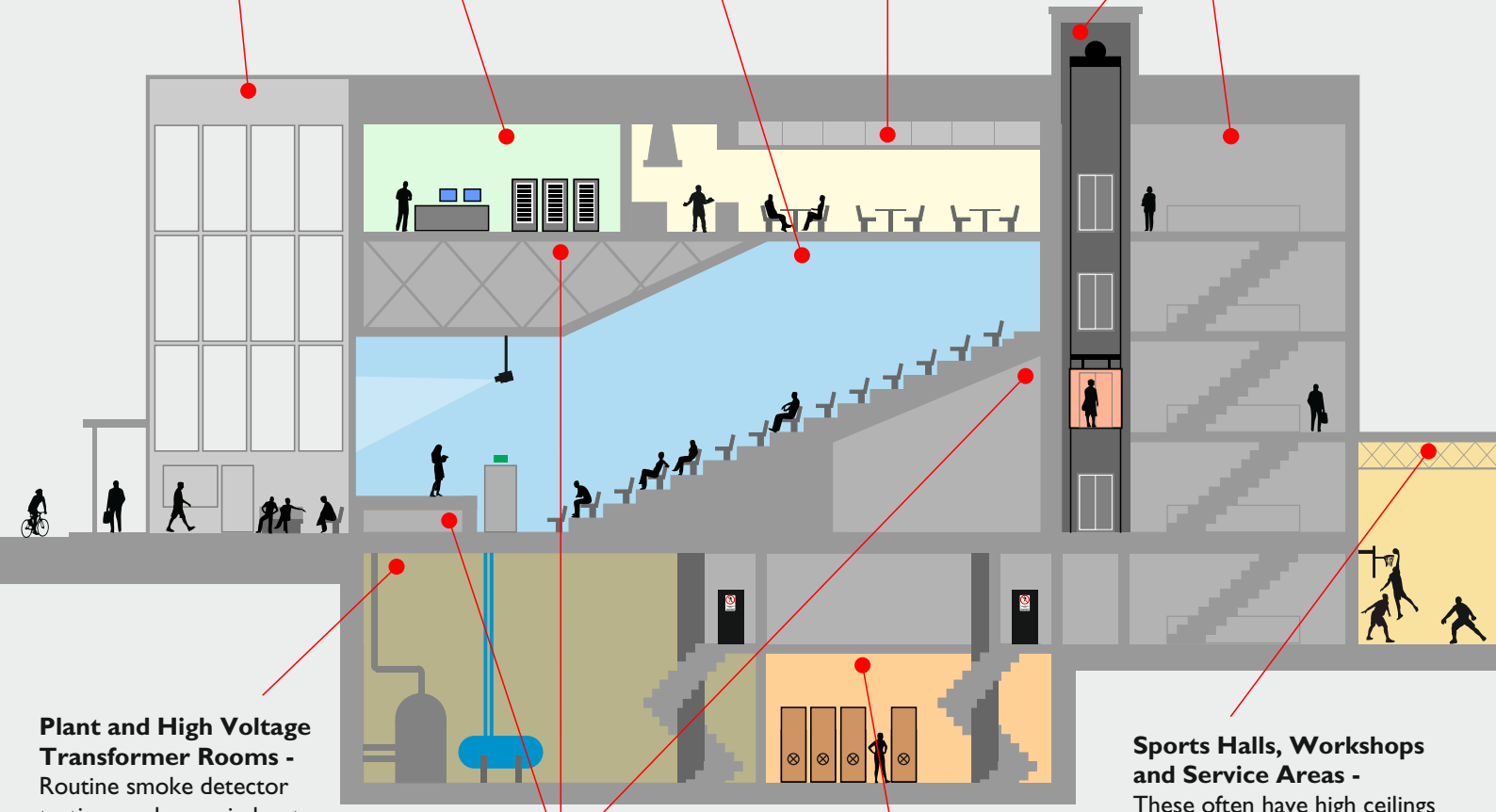
Atria and Concourses -
Testing smoke detectors can be undertaken without disruption at any time of the day and in a safe manner.

Lecture Theatres -
These areas are often in constant use throughout the day and testing the detectors would cause disruption.

Lift Shafts, stairwells, and Risers -
Smoke detection is tested at lower risk, without 3rd-party engineers or access equipment, and leaves the lift operational for those with accessibility needs and stairwells available as alternative access.

Data Centres -
This includes any room that has restricted access, or is locked for security.

Food Halls -
These areas often have detectors above a suspended ceilings.



Plant and High Voltage Transformer Rooms -
Routine smoke detector testing can be carried out without having to enter the facility.

Voids, Service and Ventilation Ducts -
These areas and above acoustic tiles or behind ceilings, are all tested safely from ground level.

Archives and Storage -
Including any room that has restricted access, or is locked for security.

Sports Halls, Workshops and Service Areas -
These often have high ceilings with detectors protected by cages to prevent damage.

WHEN DO YOU NEED SCORPION?

Scorpion is a unique test solution that solves a problem that has never before been tackled. There are many reasons for installing Scorpion including:

1. When you need to be sure ALL detectors are tested
2. When access to the detector for testing is costly and/or difficult
3. When Health and Safety risk assessments are slowing you down
4. When you want an innovative, professional, and fit for purpose test solution
5. When accuracy is key
6. When compliance with standards and maintenance schedules is as important as cost efficiency

HOW CAN I TEST HARD-TO-ACCESS DETECTORS EFFICIENTLY?

Scorpion is an innovative solution for functionally testing any hard-to-access smoke detector, whether that is a point detector or aspirating smoke detection (ASD) system.

A Scorpion head unit is a smoke generator which is installed next to a detector, and when required, generates smoke which is directed towards the detector for a functional test of the device.

Scorpion makes testing detectors in atria, lecture theatres, lift shafts, secure areas, archives, and sports halls as easy as testing a detector within easy reach.

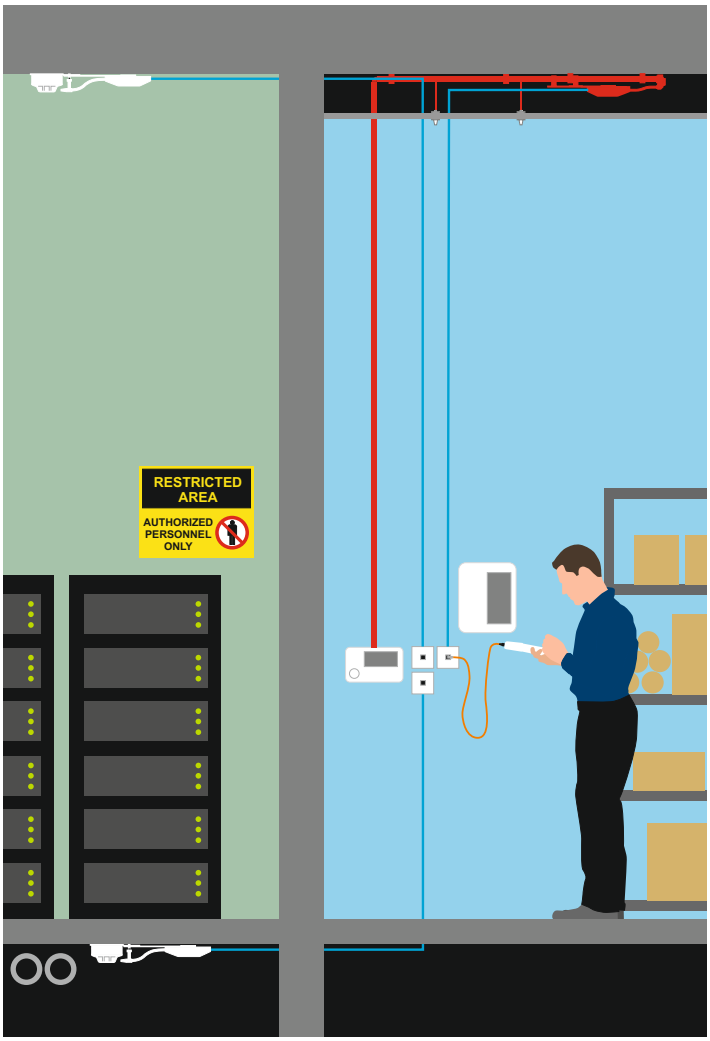
HOW DOES IT WORK?

By introducing smoke right where it is needed, Scorpion is able to activate point detectors or ASD systems with minimal inconvenience.

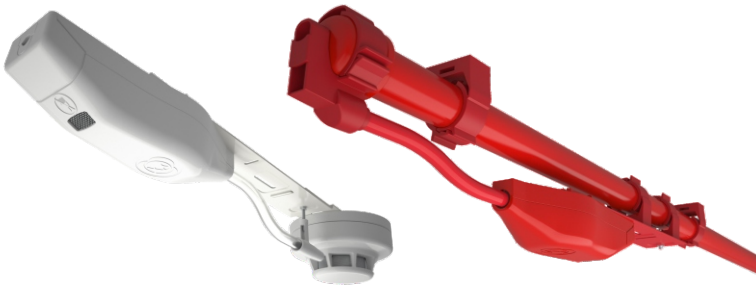
Scorpion is a micro smoke generator permanently installed adjacent to a point detector or a sampling hole on an ASD pipe – typically at the furthest sampling hole. The smoke generator is connected to a Scorpion Control Panel, or Access Point mounted at a convenient, easy to access location at ground level. Functional testing of the smoke detector is then easily and safely achieved from the Scorpion Control Panel, or Access Point (with an Engineer's Controller) whenever required.

The Scorpion system has an in-built transport timer to help assess the on-going integrity of the ASD system from the end of the pipe right down to the detector itself. A clearing function is used to clear the smoke out of point detectors to reduce the chance of repeat alarms, increasing productivity on site.

Scorpion can be retro-fitted to existing systems or be installed with new systems. Each head unit has a test capability in excess of 240 tests of 15 seconds of smoke each.



SCORPION can be used on new fire systems as well as being retro-fitted to existing systems



HOW IS 'TESTING' DIFFERENT TO 'MAINTENANCE'?

Aspirating Smoke Detector (ASD) solutions are sometimes described as "low maintenance" or "easy to maintain". While this is true of the detector panel which is in a location that is easily accessible, the same cannot be said of the sampling pipe used to detect the smoke which extends into the protected area, and very often is not easily accessible.

"Maintenance" of the system includes cleaning the sampling pipe by blowing compressed air through it, and assumes that this will clear the dust and debris out of the sampling holes. It also assumes that the pipe itself is intact along its whole length. Electronic systems in the panel give alarms for airflow errors if holes get blocked or if the pipe breaks, but can be manually over-ridden.

"Testing" that the system works can only be done by ensuring that real smoke, when introduced at the furthest sampling hole, will be drawn along the length of the pipe and show an alarm on the detector.

With Scorpion, the Transport Time measured using this test can be compared with design and commissioning data to ensure that the system continues to deliver the necessary protection.

Testing using Scorpion proves that the maintenance carried out has been effective.

Break in the ASD sampling pipe. Panel was re-programmed and so did not display any faults.

THE IMPORTANCE OF COMPLIANCE

All detectors, regardless of location, should be tested and maintained in compliance with international codes and standards. Installing Scorpion supports this and eliminates the need for deviations from such standard - offering ultimate peace of mind and proof that all detectors within a building are functioning as expected.

COST SAVING BENEFITS

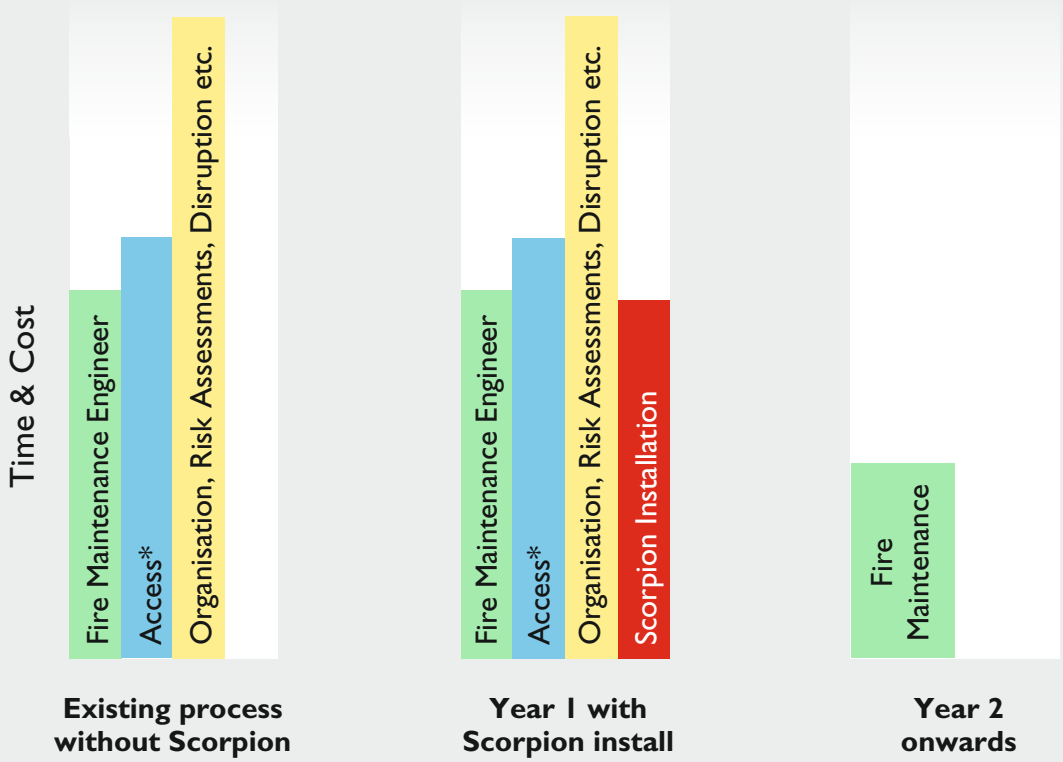
Detectors in hard to access locations are often costly to test and maintain. They require specialist access equipment, potentially the presence of a third party company and often more than one engineer. All of which takes time as well as money to arrange.

TIME SAVING BENEFITS

Installing Scorpion dramatically reduces the time taken to test hard-to-access detectors.

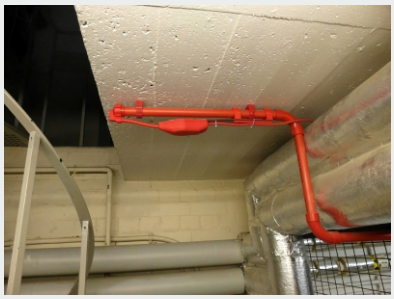
Scorpion allows these detectors to be tested easily as part of the routine test during the engineer's visit - without the need for a return visit out of hours and without the time taken to directly access the detector.

Example of typical cost and time savings using Scorpion



*Access costs may include equipment or a service engineer (in the case of a lift installation).

SCORPION INSTALLATION EXAMPLES



Scorpion on an ASD system where the end sampling hole is located within a locked cage.

Scorpion on a Point Smoke Detector in the void above a suspended ceiling.

WHAT APPLICATIONS CAN IT BENEFIT?

Scorpion can, in theory, be installed alongside any point smoke detector or aspirating system.

However, you will appreciate the benefits of the product more if you have detectors in areas such as the following:

Lecture Theatres, Atria, Concourses, and Sports Halls

- No access equipment necessary e.g. cherry pickers, scissor lifts
- Health and safety issues avoided
- No disruption to students or staff

Lift shafts and stairwells

- Eliminates disruption
- Lifts remain available for use during testing
- No third party company required – e.g. lift engineer
- No requirement for out of hours working
- Quicker test period
- No deviations from test standards

Data Centres, Plant Rooms, Substations

- Smoke detectors are tested from outside the secure area

Void Spaces and Service Ducts

- Avoids problems related to access to confined spaces
- Potential damage to building infrastructure avoided
- Quicker test period
- Eliminates disruption
- No deviations from test standards

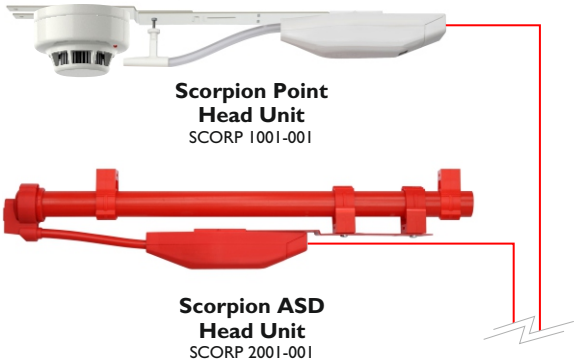
Hazardous or Inaccessible areas

- Avoids health and safety risks
- No need for risk assessments

Configuring your Scorpion solution is simple:

1) Select the Head Unit: *Are you testing ASD systems or Point Detectors?*

HEAD UNITS



Scorpion Point Head Unit
SCORP 1001-001

Scorpion ASD Head Unit
SCORP 2001-001

2) Select how the Head Unit/s will be controlled:

CONTROLLER OPTIONS

Scorpion Access Point
SCORP 25-001

Scorpion Engineers Portable Controller
SCORP 7000-001

Scorpion Wall Mounted Control Panel
SCORP 8000-001

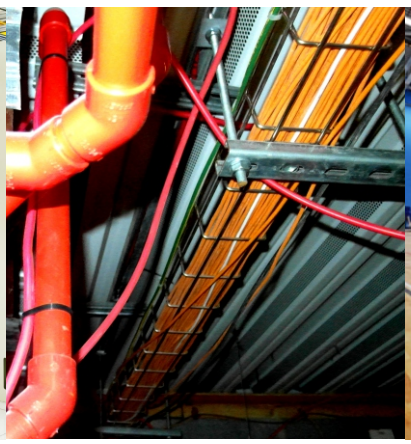
3) Select your Solo Battery Baton and Charger:

POWER

Solo Battery Baton
SOLO 760-001

Solo Universal Fast Battery Charger
SOLO 726-001

Note: these are used for all Detectortesters products - **Solo**, **Testifire** and **Scorpion**.



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Extending a Scorpion System

A Scorpion system can be extended by adding additional Head Units (Point or ASD). These are available to suit the selected Controller (Wall Mounted or Portable).

Optional Point Head Unit Kits		**Scorpion Point Head Unit Kit*** (for use with SCORP 8000 Wall Mounted Controller) **SCORP 1001-001**
		Scorpion Point Head Unit Kit* - (for use with SCORP 7000 Portable Controller) **SCORP 1011-001**
Optional ASD Head Unit Kits		**Scorpion ASD Head Unit Kit** (for use with SCORP 8000 Wall Mounted Controller) **SCORP 2001-001**
		Scorpion ASD Head Unit Kit - (for use with SCORP 7000 Portable Controller) **SCORP 2011-001**

**Detector not incuded*

Technical Specifications

Environment

	Scorpion Head Unit	Scorpion Control Panel	Scorpion Engineer's Controller
Transport / Storage Temperature	-10°C to 70°C (14°F to 158°F)	-10°C to 50°C (14°F to 122°F)	-10°C to 50°C (14°F to 122°F)
Storage Humidity	0-90% RH (non-condensing)	0-90% RH (non-condensing)	0-90% RH (non-condensing)
Operating Temperature	0°C to 60°C (32°F to 140°F)	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
Operating Humidity	0-95% RH (non-condensing)	0-85% RH (non-condensing)	0-85% RH (non-condensing)
Ingress Protection	IP20	IP40	IP20
Weights and Dimensions	<200g 155mm (L) x 54mm (W) x 34mm (H) (excluding nozzle)	<500g 150mm (L) 155mm (W) x 37mm (H)	<500g 220mm (L) 95mm (W) x 40mm (H) (excluding cables)

Note: The Scorpion system is designed for specific applications within the above parameters. For additional information regarding location and installation procedures, please refer to the Scorpion User Manual at: www.scorpion-tester.com

Safety features

- Scorpions energized only at time of test
- Isolation between Scorpion circuit and detection system
- Internal over-current protection on Scorpion circuit
- Battery over-current cut-out

Power source and charge data

- Solo Battery Baton (Solo 760-001) or Battery Pack (SCORP 50) - nominal 7.2v 2.2Ah, NiMH rechargeable
- Charge time 60-90 minutes (when completely discharged) using a Solo 726-001 charger

Cabling

- Scorpion circuit wiring: FP200 1.5 mm², Lapp J-Y(ST) Y 0.5 mm², or equivalent - 3 cores per Head Unit
- Maximum cable length per Scorpion Control Panel - 100 metres (depending on cable used)
- 8 Scorpions (max.) per Control Panel
- 1 Scorpion per Access Point

As our policy is one of continuous improvement, details of products described within this publication are subject to change without notice. All information provided here is believed to be correct at the time of going to press. Every effort has been made to ensure the accuracy of information which is provided in good faith but nothing contained herein is intended to incorporate any representation or warranty, either express or implied or to form the basis of any legal relations between the parties hereto, additional to or in lieu of such as may be applicable to a contract of sale or purchase.

This information must be read in conjunction with the Scorpion Installation Manual & User Guide which provides further information on Scorpion applications, compatibility and suitability.

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